ABSTRACT OF THE DISCLOSURE

A method controls a torque of an a. c. motor which does not cause a shortage of torque by using an economical current detection which estimates d- and q-axis currents Idc, Iqc from d. c. current IDC flowing through an input d. c. bus line of a power converter. A value of d- and q- axis motor currents Id, Iq of a rotational coordinate system are estimated from detected input d. c. current IDC flowing through the bus line of the power converter to which power is input from a d. c. power source 21. A output voltages of the power converter 2 are controlled so that the estimated currents Idc, Iqc are equal to respective current instruction values Id*, Iq*. Errors of motor constants are determined from information on the motor currents and the rotational phase errors by an operation.